

WHAT IS CLAIMED IS:

1. A temperature control system for a nitrous oxide pressurized bottle comprising:

an insulated container bounded by a plurality of thermally insulative walls defining an inner compartment surrounded by said walls and an insulative cover adapted to close said inner compartment;

a nitrous oxide pressurized bottle having an outer surface disposed within said inner compartment and means for mounting said nitrous oxide bottle within said inner compartment in a stationary position with respect to said inner compartment;

temperature sensing means for sensing the temperature of said outer surface of said bottle; and

thermo-electric air conditioning means for heating and cooling said nitrous oxide pressurized bottle to thereby maintain said bottle at a preselected temperature and pressure for injecting nitrous oxide into a motor vehicle engine.

2. The temperature control system for a nitrous oxide pressurized bottle according to claim 1 in which said cover is hingedly connected to one of said walls.

3. The temperature control system for a nitrous oxide pressurized bottle according to claim 2 in which said temperature sensing means is in contact with said outer surface of said bottle.

4. The temperature control system for a nitrous oxide pressurized bottle according to claim 3 in which said thermo-electric air conditioning means is a Peltier junction thermo-electric heat pump.

5. The temperature control system for a nitrous oxide pressurized bottle according to claim 4 in which said temperature sensing means is a thermo-electric temperature control unit.

6. The temperature control system for a nitrous oxide pressurized bottle according to claim 1 in which said thermally insulative walls are insulated with a polyurethane foam.
7. The temperature control system for a nitrous oxide pressurized bottle according to claim 6 in which said insulative walls includes a hard plastic outer surface.
8. The temperature control system for a nitrous oxide pressurized bottle according to claim 5 which includes exterior means for indicating the temperature of said surface of said bottle.
9. The temperature control system for a nitrous oxide pressurized bottle according to claim 7 in which said inner compartment includes a base and said bottle includes a valve end, a valve disposed therein and means for opening and closing said valve.
10. The temperature control system for a nitrous oxide pressurized bottle according to claim 9 wherein said pressurized bottle is positioned within said inner compartment with said valve end elevated by about 15° and said means for opening and closing said valve is disposed on a upper opposite side of said bottle from said base.
11. The temperature control system for a nitrous oxide pressurized bottle according to claim 5 which includes microprocessor means for automatically controlling the temperature and pressure of the nitrous oxide in said pressurized bottle.
12. The temperature control system for a nitrous oxide pressurized bottle according to claim 10 as which includes means for fixing said insulated container to a motor vehicle while minimizing mechanical stress on said insulated container.
13. The temperature control system for a nitrous oxide pressurized bottle according to claim 4 which includes connecting means for connecting said Peltier junction

thermo-electric heat pump to a motor vehicle 12VDC power supply and for disconnecting said connecting means for servicing the system.

14. The temperature control system for a nitrous oxide pressurized bottle according to claim 9 which includes fastening means for maintaining said cover in a closed position.

15. In a racing car of the type having an internal combustion engine and means for injecting nitrous oxide into the engine, the improvement comprising a temperature control system for a nitrous oxide pressurized bottle, said system including:

an insulated container bounded by a plurality of thermally insulative walls defining an inner compartment surrounded by said walls and an insulative cover adapted to close said inner compartment;

a nitrous oxide pressurized bottle having an outer surface disposed within said inner compartment and means for mounting said nitrous oxide bottle within said inner compartment in a stationary position with respect to said inner compartment;

temperature sensing means for sensing the temperature of said outer surface of said bottle; and

thermo-electric air conditioning means for heating and cooling said nitrous oxide pressurized bottle to thereby maintain said bottle at a preselected temperature and pressure for injecting nitrous oxide into a motor vehicle engine.